



AN/ASQ-232 AIRBORNE MINE NEUTRALIZATION DEMONSTRATION (AMNS) IN VERY SHALLOW WATER (VSW)

Paul Moser
Naval Surface Warfare Center-Panama City
(NSWC-PC)



AN/ASQ-232 AMNS VSW Demonstration



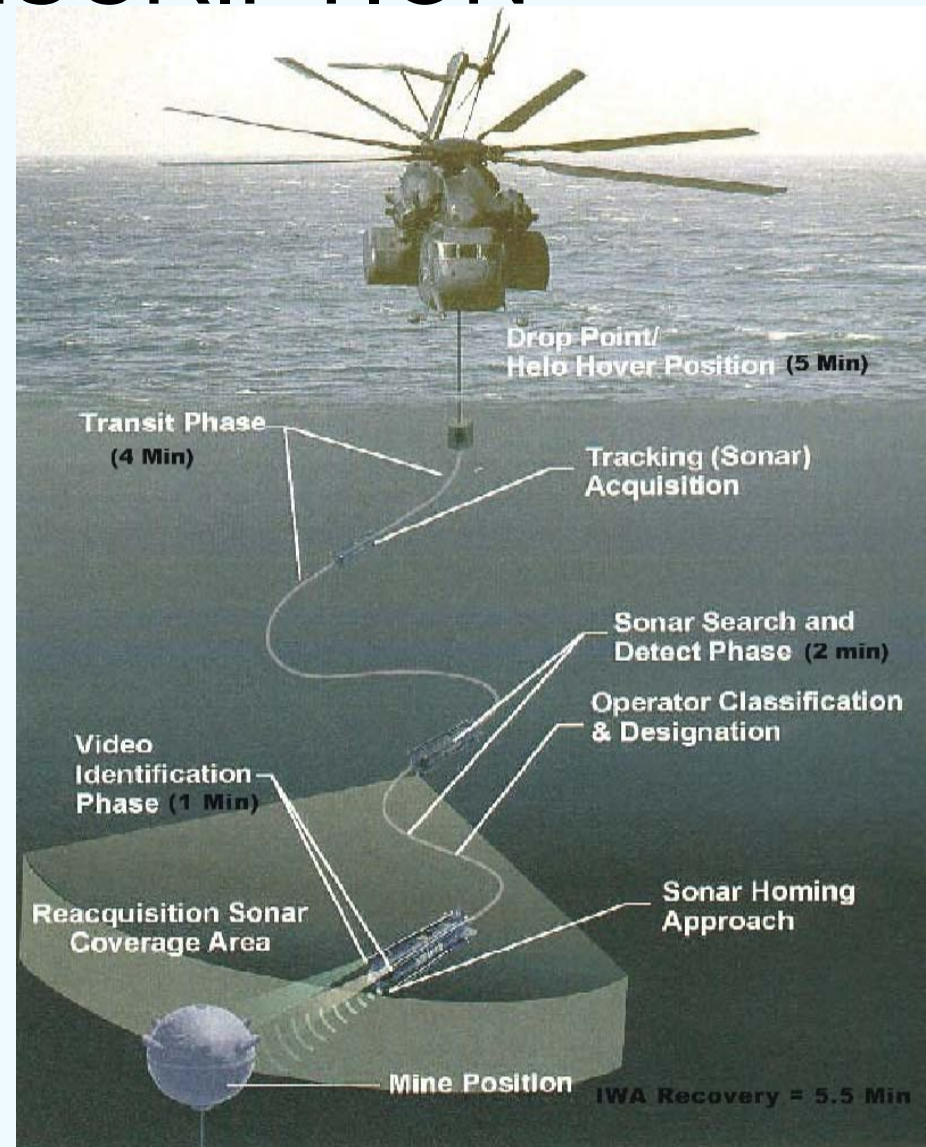
- **Purpose:** Demonstrate the controllability of an existing navy owned neutralizer in energetic VSW high surge sea state using trained operators
- **When:** 2 April, 2005
- **Where:** Naval Special Clearance Team-One (NSCT-1), Naval Amphibious Base Coronado
- **Platform:** 26' Workboat



AN/ASQ-232 AMNS SYSTEM DESCRIPTION



- US NAVY SYSTEM FOR MINE NEUTRALIZATION IN PERMISSIVE ENVIRONMENT
- HELO LAUNCHED FROM MH-53
- ULTRA SHORT BASELINE TRACKING TO WAYPOINT
- ROTATING HEAD SONAR FOR TARGET ACQUISITION
- VIDEO FOR IDENTIFICATION
- SHAPE CHARGE FOR NEUTRALIZATION





Demonstration Hardware



- Inert training neutralizers
- Portable Mobile Control Console
- Support Equipment
 - Mobile winch, tie down straps, interface cable, snap hook carry handles, 2-3 cradles, battery charger, 4 sets NiCad batteries
 - Neutralizer Test set
 - VGA-out Recording set
- NSCT-1 equipment
 - Workboat, 2 Mantas, and 1 Mal-17 buoyed off in 10-20 ft of water
- Acoustic Doppler Current Profiler for environmental Characterization
- Neutralizer placed within 25 yards of target



Demonstration Hardware





AN/ASQ-232 AMNS Demo Targets



No	Description	Depth and Location	Coordinates
#1	Manta	30 ft on bottom	32°36.590 N & 117°08.305W
#2	MAL 17	21 water depth ft & 6 ft off bottom	32°36.592 N & 117°08.267W
#3	Manta	15 ft on bottom	32°36.598N & 117°08.262W
#4	ADCP	10 ft on bottom	32°36.587N & 117°08.229W

**Acoustic Doppler
Current Profiler
(ADCP)**





CONDITIONS: SEASTATE 0 ?

**Slight Swell, Waves breaking in 6-8 Feet of
Seawater**







AN/ASQ-232 AMNS DEMO Results



R u n #	Target Information	Results
1	#1, Manta type bottom mine in 30 ft.	Acquired target with sonar within 15-25 yards of target, unable to image or engage after initial acquisition. Trial run halted.
2	#2, moored mine 6 ft off seabed	Acquired target with sonar within 15-25 yards of target, unable to image or engage after initial acquisition. Trial run halted.
3	#4, ADCP housing on bottom in 10 ft	Acquired target with sonar within 15-25 yards of target, unable to image or engage target after initial acquisition. Trial run halted.
4	#4* ADCP housing on bottom in 10 ft.	Did not use sonar, followed buoy line to target. Imaged target, but unable to hold target in view of camera.





AN/ASQ-232 AMNS Demo

Conclusions



- Seastate not enough info to Characterize conditions in VSW
- Test conducted before and after VSW test were positive-Only variable changed from dockside test was *Surge*
- Recommend additional technology development in the following areas:
 - Vehicle control
 - Improve Target Location/Sonar Detection